

## MULTIGRID CONFORMAL MAPPING VIA THE SZEGŐ KERNEL\*

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**Abstract.** We introduce a multilevel scheme to solve a second kind integral equation which is important in computing conformal maps. This scheme outperforms conjugate gradient methods previously employed for smooth regions. An analysis of the two-grid scheme is provided.

**Key words.** conformal mapping, multigrid, Szegő kernel, integral equations.

**AMS subject classifications.** 45L10, 45B05, 65R20, 65F20, 65F10.

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